# INDEX.

## Circular to Gas Companies.


Aberdeen, Gas Accounts of the Corporation of, 746
Aberdeen, Reduction in the Price of Gas at, 710
Accounts of the Metropolitan Gas Companies for 1876, 289, 517
Adoption of the Burghs (Scotland) Gas Act at Elgin, 942
Aitken and Young Process, The, 746
Aitken *v.* Brémond, 786
Alliance and Dublin Consumers Gas Company and the Corporation, 410, 594
Alliance and Dublin Consumers Gas Company, Meeting of the, 554
Alliance and Dublin Consumers Gas Company, Report and Accounts of the, 481, 517
Amalgamation, Incentives to, 905
Amalgamation, The Desirability of, 825
Amalgamation of the Melbourne Gas Companies, 670, 745
Analyses of Scotch Coals and Cannels by Dr. Wallace, 943
Appointment of Mr. J. O. Phillips as a Deputy Lieutenant, 745
Ashton-in-Mackerfield, Gas Accounts of the Local Board of, 746
Auction Clauses, Proposed New Standing Order on, 169
Automatic Lamplighting and Extinguishing, Mr. Wilson on, 9
Average Meter System in the Metropolis, 670
Backler, Mr., On the Electric Light, 129
Barnet District Gas and Water Company, Meeting of the, 370
Batley, Reduction of Price and Appropriation of Profits at, 249
Bennett, Mr., On the Relations of Gas Companies and Consumers, 89
Birkbeck Building Society's Gas Property, 249
Birmingham Arbitration, The, 633
Birmingham, Gas Affairs in, 709, 746
Birmingham, The Corporation of, and Gas Deposits, 554
Birmingham, The Corporation of, and Small Gas Accounts, 785
Birmingham, The Corporation of, and the Royal Town of Sutton Coldfield, 633, 942
Board of Trade, The, and Alterations in the Sales of Gas Act, 481
Bolton Corporation Gas Works, Extension of the, 866
Bolton, The Gas Accounts of the Corporation of, 825
Bray, Mr., on Waste of Gaslight, 370
Brémond, Mons., on Naphthaline, 594, 670, 710
Brighton and Hove Gas Company, Report of the, 410
Brighton Gas Companies, Proposed Purchase of the, 130
Brighton Gas Company, Accounts of the Old, 969
Bristol Gas Company, Half-Yearly Meeting of the, 446
Bristol, Public Lighting at, 518, 554, 634
British Association of Gas Managers, The next Meeting of the, 90
Burghs (Scotland) Gas Act, Adoption of the, at Elgin, 942
Cambridge Gas Company, Meeting of the, 210, 249
Carshalton, Gas Row at, 481
Carshalton, Public Lighting at, 906
Chartered and Crystal Palace District Gas Bills, Report of Proceedings on the, 170
Chartered Gas Company, Meeting of the, 289
Chartered Gas Company, Report and Accounts of the, 209
Chief Gas Examiner's Quarterly Report, 50, 555
Coleraine Commissioners, The, and the Price of Gas, 10
Colne Valley Gas Company, Regina *v.*, 209
Commercial Gas Company, Complaints of Nuisance at the Ratcliff Works of the, 866
Commercial Gas Company, Meeting of the, 554
Commercial Gas Company, Prosecution of the, by the Metropolitan Board, 593, 669, 825
Comparative Cost of Gas and the Electric Light, 670
Cork Consumers Gas Company, Meeting of the, 290
Cost of Exhaustion, Mr. Woodall on the, 49
Crystal Palace District Gas Company, Meeting of the, 481
Devonport Gas Works, Accident at the, 169
Droitwich, Extension of Gas Works at, 249
Dublin, The Corporation of, and the Gas Company, 410, 594
Dublin, The Corporation of, and the Gas Engineers, 249
Dumbarton, Gas Affairs at, 670
Dumbarton, Price of Gas at, 634
Eastbourne, Gas Affairs at, 906
Eldridge, Mr., on West's System of Gas Making, 49
Electric Candle, French Opinion on the, 330
Electric Candle, The, 594, 634
Electric Candle, The, and the Gas Debts of Local Authorities, 90
Electric Candle, The, and the Gas Scare, 169
Electric Candle, The, *v.* Gas, 89, 745
Electric Light, The, and Gas-supplying Corporations, 89
Electric Light, The, and the Falls of Niagara, 90
Electric Light, The, at Dublin, 826
Electric Light, Comparative Cost of Gas and the, 670
Electric Light, Mr. Backler on the, 129
Electricity, Lighting and Extinguishing Gas Lamps by, 905
Electricity, Lighting by, 710
Electricity, Proposed Lighting of Mines by, 786
Elgin, Adoption of the Burghs (Scotland) Gas Act at, 942
Estimation of Sulphur in Gas, 826
"Evening Star" Masonic Lodge, The, 250
Exeter, Gas Affairs at, 249, 290, 446
Exeter Gas Company, Conviction of the, for Nuisance, 982
Exeter Gas Works, Abandonment of Negotiations for the Purchase of the, 9
Exeter Gas Works, Alleged Nuisance at the, 129
Farnworth and Kearsley Gas Works, Proposed Purchase of the, 446, 786
Forfar, Gas Affairs at, 329
Formation of a Midland Gas Managers Association, 594
Gas Companies Accounts, Mr. Lass on, 90
Gas Companies Accounts, New Form of, 825
Gas Companies, General Prosperity of, 249
Gas Companies, Quarrels of, with Local Boards, 410
Gas Engineers, The, and the Corporation of Dublin, 249
Gas Fittings, Necessity for Overlooking, 906
Gas Legislation in 1877, 290, 633
Gas Profits, Application of, at Halifax, 554
Gas Profits, Local Authorities and, 90
Gas Referees, Winter Instructions of the, 555
Gas Rents, Recovery of, from a Bankrupt, 90
Gas Scare, The, and the Electric Light, 169
Gas Share Market, Reaction in the, 89, 129
Gas Shares, Fall in the Price of Metropolitan, 50
Gas Testing in the Metropolis, 709, 905
German Gas Managers Association, Meeting of the, 90
Halifax, Application of Gas Profits at, 554
Halifax, Discontent at, 865
Halifax, Gas Affairs at, 593, 634
Hampton Wick Gas Works, Alleged Nuisance at the, 210
Hanley Gas Bill, Parliamentary Costs of the, 169
Harcourt's, Mr. Vernon, New Unit of Light for Photometry, 329, 410
Hartlepool, Gas Affairs at, 786, 865, 906
Hartlepool Gas and Water Company, Proposed Purchase of the, 554
Hastings, Gas Affairs at, 943
Have a Statutory Gas Company a Right to Open a Footpath? 593
Heumann, Dr., On the Theory of Luminous Flames, 370
Hull, Gas Affairs at, 169, 329
Hull, The Gas Companies of, and the Corporation, 446
Hydraulic Stoker, The, at Rochdale and Glasgow, 942
Ilkeston Gas Works, Purchase of the, 10, 865
Ipswich, Reduction in the Price of Gas at, 446
Lancaster Gas Company, Meeting of the, 330
Lass, Mr., on Gas Companies Accounts, 90
Law of Gas and Water, Michael and Will on the, 482
Lecture on Coal Gas, by Mr. Hunter, at Salford, 943
Leeds, Reduction in the Price of Gas at, 10
Leicester, Extension of Gas Works at, 249, 446, 554
Leicester Gas Works, Purchase of the, 866
Lewes Gas Company, Proposed Incorporation of the, 634
Lighting of Railway Carriages, Mr. Sugg on the, 9
Lime, Revivification of, 634
Limerick, Another Fight on Gas Affairs at, 249
Limerick, Transfer of the United General Gas Company's Works to the Corporation of, 50, 90
Liverpool Corporation Gas Committee, The New, 786
Liverpool Gas Company and the Corporation, 709
Liverpool Gas Company and the Mersey Dock Commissioners, 866
Liverpool Gas Company, Suggested Purchase of the Works of the, 50, 209
Livesey, Mr. G., on the True Interests of Gas Companies, 330, 369
Local Authorities and Gas Profits, 90
London Gas Company, Meeting of the, 553
Macclesfield, Gas Accounts of the Corporation of, 746
Maidenhead, Public Lighting at, 90, 129
Maidstone, The Sulphur Question at, 10, 445, 482, 554
Manchester Corporation Gas Accounts, 709
Manchester Corporation Gas Works, 593
Manchester, Reduction in the Price of Gas at, 670
Manufacture of Residuals by Gas Companies, 370
Melbourne Gas Companies, Amalgamation of the, 670, 745
Meter Indices, Necessity for Examination of, 409
Meter Testing Apparatus, The Reverification of, 409
Metropolitan Gas Companies, Accounts of the, for 1876, 289, 517
Metropolitan Gas Companies, Half Yearly Reports of, 553
Michael and Will "On the Law of Gas and Water," 482
Middleton Commissioners, The, and their Manager, 50
Midland Gas Managers Association, 594
Mile End, Public Lighting at, 942
Mineral Statistics, 669
Naphthaline, "A Bored Inspector" on, 49
Naphthaline, Mons. Brémond on, 594, 670, 710
Necessity for Overlooking Gas Fittings, 906
Newbury Gas Works, Proposed Purchase of the, 330, 746
New Form of Gas Companies Accounts, 825
New Process for the Valuation of Gas Liquor, 90
New Standing Order on Auction Clauses, 169
New Unit of Light for Photometry, Mr. Vernon Harcourt's, 329, 410
New York Gas Works, Reported Nuisance at the, 129
North British Association of Gas Managers, Meeting of the, 10, 90, 130
North of England Association of Gas Managers—President's Address, 710
Nottingham Corporation Gas Accounts, 330
Oechelhäusser's (?) Regenerative Furnace and Retort Setting, 50
Parliamentary Notices for 1878, 865
Patterson *v.* The Gaslight and Coke Company—Appeal to the House of Lords, 825, 941
Periodical District Pressure Testing, Mr. Warner on, 90
Petroleum Oil, Public Lighting by, 410
Phœnix Gas Company, Meeting of the, 553
Phœnix Gas Company, Reduction in the Price of Gas by the, 410
Photometry, Mr. Vernon Harcourt's New Unit of Light for, 329, 410
"Popular Delusions," 9
Provincial Gas Companies, Meetings of, 446
"Pure Carbon Gas," 290
Pure Carbon Gas Company, The, 710
Quarterly Report of the Chief Gas Examiner, 50, 555
Ratcliff Gas Works, Complaints of Nuisance at the, 866
Recovery of Gas Rents from a Bankrupt, 90
Regina *v.* Colne Valley Gas Company, 209
Relations of Gas Companies and Consumers, Mr. Bennett on the, 89
Residuals, Manufacture of, by Gas Companies, 370
Results of the Last Session of Parliament, 290
Retrospect of the Year, 981
Revivification of Lime, 634
Rossendale, Price of Gas at, 866, 942
Sale of Outlying Portions of Corporation Gas Undertakings, 670
Sales of Gas Acts, Proposed Amendment of the, 445, 517
Salford Corporation, Gas Accounts of the, 634, 745
Salford, Gas Affairs in, 709
Saltburn, Gas Affairs at, 906
"Sewage Gas," 943
Sheffield United Gas Company, Meeting of the, 554
Sheffield United Gas Company, Report of the, 481

Sheppy Gas Company, The, and the Sheerness Local Board, 786, 943
Shotley Bridge, Gas Affairs at, 942
"Slow Poisoning" by Gas, 710
Société Technique de l'Industrie du Gaz, Meeting of the, 90
South Metropolitan Gas Company, Meeting of the, 553
South Metropolitan Gas Company, Report of the, 481
South Metropolitan Gas Company *v.* Thorpe, 669
Special Gas Committee of the Corporation of London, Report of the, 445
Stafford, The Corporation of, and the Gas Company, 50
Steam Jet Exhauster, The, 634
Steam Rollers and Traction Engines on Public Roads, 710
Stewart, Mr., on "The Construction of Gas Works," 710
St. Helen's Gas Company, Purchase of the, 634
Stoke and Fenton Gas Works, Proposed Purchase of the, 10, 169, 481, 982
Stoke Gas Works, Sale of the, 130
Stratford-on-Avon, Gas Affairs at, 905
Sugg, Mr., on Lighting Railway Carriages, 9
Sulphur in Gas, The Estimation of, 826
Sulphur Question at West Ham, 785
Sulphur Question, The, 709, 866
Sulphur Question, The, on the Continent, 49
Surrey Consumers Gas Company, Meeting of the, 553
Sutton, Busybodies at, 942
Sutton Coldfield and the Birmingham Corporation, 633, 942
Teddington, Public Lighting at, 90
Theory of Luminous Flames, Dr. Heumann on the, 370
Torquay Gas Company, Opposition to the, 942
True Interests of Gas Companies, Mr. G. Livesey on the, 330, 369
Universal Gaslight Improvement Company, 517
Useful Knowledge, The Diffusion of, 825
Valuation of Gas Liquor, The New Process for the, 90
Wallace's, Dr., Analyses of Scotch Coals and Cannels, 943
Warden of the Standards, Eleventh Report of the, 409, 445
Warner, Mr., on Periodical Pressure Testing, 90
Waste of Gaslight, Mr. Bray on, 370
Waterford Gas Company, 446
West Houghton Local Board and the Gas Company, 786
West of Scotland Association of Gas Managers, 634, 670
West's System of Gas Making, Mr. Eldridge on, 49
Whitehaven, Gas Affairs at, 249
Wilson, Mr., on Automatic Lamp Lighting, 9
Winter Instructions of the Gas Referees, 555
Woodall, Mr. C., on the Cost of Exhaustion, 49
Wright, Mr. L. T., on Gas Purification, 670
York Gas Company, Meeting of the, 249
York, Reduction in the Price of Gas at, 50
York, Sale of Coke and Lime by Gas Company, 50
York, The Corporation of, and the Gas Company, 942

## Water and Sanitary Notes.

Accrington, Typhoid Fever and the Water Supply of, 747
Advantages of the Supply of Water by Commercial Companies, The Vice-President of the Society of Arts upon the, 826
Audley, The Well Question at, 747
Bazalgette, Bramwell, and Easton's, Messrs., Proposed New Metropolitan Water Supply Scheme, 330, 370, 410, 595, 787, 826, 906
Bristol Water Company, Proposed Purchase of the, 747
Carter, Mr. R. B., on the Necessity of Further Legislation for the Prevention of Disease, 596
Charing Cross Improvement Scheme, Abandonment of the, 130
Cheltenham, Water Affairs at, 170
Communicable Diseases, Dr. Richardson on, 595
Corporation of London, The, and the Preservation of Open Spaces, 906
Disinfection and Utilization of Condemned Meat, 518
Disposal of the Sewage of Manchester and Salford, 827
Domestic Economy, A Congress on, 90
East London Water Company's Accounts, 518
Edinburgh Water Trust, 446
Exeter, Proposed New Water Company at, 635
Exeter Water Company, Refusal of the, to Sell their Undertaking, 596
Exeter Water-Works, Proposed Purchase of the, 556, 748, 982
Expected "Turbidity" in the Thames Water, 330
Force, Professor Osborn Reynolds on the Supply of, 671
Glasgow, Report on the Disposal of Sewage at, 746
"Grandmotherly Government," 907
Hassard, Mr., on the Water Supply of London, 826
Henley, Water Supply of, 827
Honiton, The Well Question at, 747
How not to Make a Filter, 671
Hydrants in the City of London, Experiments with, 826
Kirby Moorside, Water Supply of, 787
Lambeth Water Works Company, Report of the, 826
Leicester, The Sewerage of, 711
Leicester Water Works, Purchase of the, 556, 595, 787
Liverpool, Proposed New Water Supply for, 330, 635, 982
Liverpool, Proposed New Water Supply of, and the Severn Conservators, 866
Liverpool Water Committee, Re-election of the Chairman of the, 787
Local Government Board and the Pollution of Rivers Act, 250
Local Government Board, Annual Report of the, 671, 711
Local Government Board Inspectors, 10
Loch Katrine Water, Organic Impurity in, 331
Lower Thames Valley District Drainage Scheme, 51
Manchester and Salford, Disposal of the Sewage of, 827
Manchester, A Town's Meeting at, 130
Manchester Water Supply and the Thirlmere Scheme, 51, 210, 518, 595, 635, 711, 907
Metropolitan and Provincial Water Supplies, 446
Metropolitan Board, The, and the Fire Brigade, 943
Metropolitan Board, The, and the Public Health (Metropolis) Bill, 10
Metropolitan Fire Brigade Committee, Report of the, 170
Metropolitan Water Companies, Accounts of the, for 1876, 250, 595
Metropolitan Water Companies—Mr. Stoneham's Report, 746
Metropolitan Water Companies, Proposed Purchase of the, 595, 636, 787, 826, 906
Metropolitan Water Supply, Proposed New, 330, 370, 410, 595, 787, 826, 906
Native Guano Company, The, 370
Newport, Condition of the Water Supply of, 635
Newport, Waste of Water at, 787
New Scheme, A, for Supplying South London with Water, 866
Oldham and the Thirlmere Scheme, 827
Potable Water and the Extinction of Fires in the Metropolis, 250
Provisional Order, The Cost of a, 867
Public Health Act, Provisional Orders under the, 411
Public Health (Metropolis) Bill, Withdrawal of the, 130
Rawlinson, Mr., on the Supply of Water by Companies, 518
Registration of Disease, 906
Reservoirs Act, Mr. Whalley's, 250
Reynolds, Professor Osborn, on the Supply of Force, 671
Richardson, Dr., on Communicable Diseases, 595
Richmond Water Supply, 411
Richmond Water Works, Another Loan for, 170
Rivers Pollution Prevention Act, 944
Sanitary Congress at Leamington, 595
Scarborough Water Company, Proposed Purchase of the, 748
Sea Water, Proposed supply of, to London, 635
Sheerness, Water Supply of, 787
Shrewsbury Water Works, Purchase of the, 331
Smoke Nuisance, The, 907
Social Science and Sanitary Conferences, 555
Southwark and Vauxhall Company's Water, Quality of the, 130
Southwark and Vauxhall Water Company, The Affairs of the, 943
Thames, Another Overflow of the, 410
Thames Floods in the Metropolis, Prevention of, 787
Thames Floods Prevention and the Metropolitan Board, 866, 944
Thames Floods Prevention Bill, The Government and the, 10
Thames, Report of Capt. Calver on the State of the, 943
Thames, The State of the, 982
Town Wells, The Closing of, 671
Tube Wells for obtaining Large Quantities of Water, 907
Typhoid Fever and the Water Supply of Accrington, 747
Vestry Delegates, 906
Wakefield Water Works, Transfer of the, 331
Walsall, Sewage Difficulties at, 906
Waste of Water in Dublin, 10
Water and Beer at Wrexham, 10
Water Bills—Parliamentary Notices for 1878, 866
Water Cisterns, Dirty, 907
Well Question, The, at Audley, 747
West Houghton Provisional (Water) Order, Rejection of the, 170
Weston-super-Mare Water Works, Proposed Sale of the, 787
Whalley's, Mr., Reservoirs Act, 250
Wimbledon, Water Supply of, and the Public Health Act, 210
Wolverhampton Sewage, 595

## Leading Articles.

Accounts of the Metropolis Gas Companies for the Year 1876, 291
Accounts of the Metropolis Water Companies for the Year 1876–77, 599
Death of Mr. R. A. Gray, 944
Gas Acts passed in the Session of 1877, 636, 671
Heat (Review), 556
House Drainage (Review), 944
Law Relating to Gas and Water (Review), 518
Lighting by Electricity, 867, 907, 983
Local Government Board, Sixth Annual Report of the, 673
Provisional Orders granted in the Session of 1877, 672
Roads and Streets (Review), 984
Tables for Gas Managers (Review), 331
Water Acts passed in the Session of 1877, 711, 748
Water Supply of Cities and Towns (Review), 411

## A Treatise on the Science and Practice of the Manufacture and Distribution of Coal Gas.

*(Continued from previous Volumes.)*

Subways, 132, 172
Valves, 210, 251, 292, 372, 412, 484
Tables of the Discharge of Gas in Cubic Feet per Hour, through Pipes of Various Diameters and Lengths, at Different Pressures, 596, 638, 749, 788, 870, 912

## Communicated Articles.

Analyses of Scotch Coals, Cannel, Splint, Shale, &c., used in the Manufacture of Gas. By Wm. Wallace, Ph.D., F.R.S.E., F.C.S., &c., 945
Contributions to the Theory of Luminous Flames. By Dr. Karl Heumann, 11, 171, 211, 370
Non-Piston Age of the Steam Engine, The. By Mr. W. Mann, 639, 750
Notes on the Analysis of Gas Coals. By Mr. T. O'Conor Sloane, 413
Purification of Coal Gas, On the. By Dr. H. Bunté, 131
Quantitative and Qualitative Examination of Gas Mixtures, A Simple Gas Burette for the. By Dr. H. Bunté, 597

## Correspondence.

Aitken and Young's Process, Dr. Wallace on—Key, W., 53
Alleged Nuisance at the Hampton Wick Gas Works, The—Price, E., 290
Ammonia Tests—$NH_3$, 676
Are Statutory Companies bound to Register?—Livesey, W., 641
W. W., 598
Automatic Lamp Lighting—Spice, R. P., 213
Wilson, A. P., 53
British Association of Gas Managers—Longworth, W., 984
Stud. B. G. M., 914
Colour Test for Ammonia, A—Davenport, G. A., 641
Colour Test, Mr. Vernon Harcourt's—Jones, H. E. 598
Construction of Concrete Gasholder Tanks—Webber, W. H. Y., 332
Consulting Engineers Charges—S., 790
Electric Light, The—A Large Holder of Gas Shares, 713
Exhausters—Gwynne and Co., 12
Körting Bros., 91
Fison's Patent Exhausting Apparatus—Wimhurst H., 790
Gas Purification, &c.—Wright, L. T., 676
Gas *versus* Electricity—Gore, H., 135
Halifax Corporation Gas Supply—Carr, W., 641
Illusions—Anderson, G., 712
Hartley, F. W., 752
Körting Bros., 752
Inaccuracy of the Indices of Gas Meters—Ex-Secretary, 482
Iron Peroxide—A Gas Director, 598, 790
Cleland, W., 754
Main Laying under Water—E. P., 789
Mechanical *versus* Jet Exhausters—Steam Jet, 53
Naphthaline—A Bored Inspector, 53
Aitken, H., 789
Bennett, W. H., 713
Brémond, L., 213, 677, 712, 869
Newbigging, T., 598
Phelps, R., 556
Selenium, 914
Young, W., 641
New Unit of Light for Photometry, The—Harcourt, A. Vernon, 414
Vela-Lima, 374
North British Association of Gas Managers—Mackenzie, W., 519
W. L., 414, 556
Young, W., 290
North of England Gas Managers Association—Key, W., 754
Oechelhäusser's Generator Furnaces—Voss, C., 52
Ossett Local Board, The, and the Gas Company—Haigh, F. R., 827
Oxides of Iron—Anderson, G., 869
Payment by Results—Anderson, G., 374

Portland Cement Concrete—
Donaldson, A., 754
Douglas, J., 676
H. T., 642
M'Crae, J., 754
Price of Gas at Dumbarton—M'Gilchrist, J., 676
Provisional Orders—
Livesey, W., 675
W. W., 752
Retort Carbon—Old Leodis, 984
Revivification of Foul Lime—Wright, L. T., 789
Sales of Gas Act, 1859, Proposed Amendment of the—
Anderson, G., 641
Bent, J. C., 713
Cowan, W., 676
Steam Jet Exhausters—
Cleland, W., 51, 135, 752
Steam Jet, 213
Young, W., 868
Sulphur Purification—
Anderson, G., 134
Fewtrell, W. T., 91
Heisch, C., 133
Pattinson, J., 91
Versmann, F., 53, 252
Symes's Process of Manufacturing Gas—
Botley, C. E., 753
Smith, F. W., 827
W. M. G., 789
True Interests of Gas Companies, The—
Livesey, G., 331
Wilson, A. F., 414
Valuation of Gas Lime and Liquor—F. I. E., 12
Volumetric Method, A, for Estimating Sulphur in Coal Gas—
Wright, L. T., 753, 869
Young, W. C., 790, 913
West of Scotland Association of Gas Managers—Nelson, D. M., 676

---

A Bored Inspector—Naphthaline, 53
A Gas Director—Iron Peroxide, 598, 790
Aitken, H.—Naphthaline, 789
A Large Holder of Gas Shares — The Electric Light, 713
Anderson, G.—
Illusions, 712
Oxides of Iron, 869
Payment by Results, 374
Proposed Amendment of the Sales of Gas Act, 641
Sulphur Purification, 134
Bennett, W. H.—Naphthaline, 713
Bent, J. C.—Proposed Amendment of the Sales of Gas Act, 713
Botley, C. E.—Symes's Process for Manufacturing Gas, 753
Brémond, L.—Naphthaline, 213, 677, 712, 869
Carr, W.—Halifax Corporation Gas Supply, 641
Cleland, W.—
Iron Peroxide, 754
Steam Jet Exhausters, 51, 135, 752
Cowan, W.—Proposed Amendment of the Sales of Gas Act, 676
Davenport, G. A.—A Colour Test for Ammonia, 641
Donaldson, A.—Portland Cement Concrete, 754
Douglas, J.—Portland Cement Concrete, 676
E. P.—Main Laying under Water, 789
Ex-Secretary—Inaccuracy of the Indices of Gas Meters, 482
Fewtrell, W. T.—Sulphur Purification, 91
F. I. E.—Valuation of Gas Lime and Liquor, 12
Gore, H.—Gas *versus* Electricity, 135
Gwynne and Co.—Exhausters, 12
Haigh, F. R.—The Ossett Local Board and the Gas Company, 827
Harcourt, A. Vernon—The New Unit of Light for Photometry, 414
Hartley, F. W.—Illusions, 752
Heisch, C.—Sulphur Purification, 133
H. T.—Portland Cement Concrete, 642
Jones, H. E. — Mr. Vernon Harcourt's Colour Test, 598
Key, W.—
Dr. Wallace on Aitken and Young's Process, 53
North of England Gas Managers Association, 754
Körting Bros.—
Exhausters, 91
Illusions, 752
Livesey, G.—The True Interests of Gas Companies, 331
Livesey, W.—
Are Statutory Companies Bound to Register? 641
Provisional Orders, 675
Longworth, W.—British Association of Gas Managers, 984
Mackenzie, W.—North British Association of Gas Managers, 519
M'Crae, J.—Portland Cement Concrete, 754
M'Gilchrist, J.—The Price of Gas at Dumbarton, 676
Nelson, D. M.—West of Scotland Association of Gas Managers, 676
Newbigging, T.—Naphthaline, 598
$NH_3$—Ammonia Tests, 676
Old Leodis—Retort Carbon, 984
Pattinson, J.—Sulphur Purification, 91
Phelps, R.—Naphthaline, 556
Price, E.—Alleged Nuisance at the Hampton Wick Gas Works, 290
S.—Consulting Engineers Charges, 790
Selenium—Naphthaline, 914
Smith, F. W.—Symes's Process for Manufacturing Gas, 827
Spice, R. P.—Automatic Lamp Lighting, 213
Steam jet—
Mechanical *versus* Jet Exhausters, 53
Steam Jet Exhausters, 213
Stud. B. G. M.—British Association of Gas Managers, 914
Vela-Lima.—The New Unit of Light for Photometry, 374
Versmann, F.—Sulphur Purification, 53, 252
Voss, C.—Oechelhäusser's Generator Furnaces, 52
Webber, W. H. Y.—Construction of Concrete Gasholder Tanks, 332
Wilson, A. F.—
Automatic Lamp Lighting, 53
The True Interests of Gas Companies, 414
Wimhurst, H.—Fison's Patent Exhausting Apparatus, 790
W. L.—North British Association of Gas Managers, 414, 556
W. M. G.—Symes's Process for Manufacturing Gas, 789
Wright, L. T.—
Gas Purification, &c., 676
Revivification of Foul Lime, 789
Volumetric Method, A, for Estimating Sulphur in Coal Gas, 753, 869
W. W.—
Are Statutory Companies bound to Register? 598
Provisional Orders, 752
Young, W.—
Naphthaline, 641
North British Association of Gas Managers, 290
Steam Jet Exhausters, 868
Young, W. C.—A Volumetric Method for Estimating Sulphur in Coal Gas, 790, 913

## Parliamentary Intelligence.

House of Lords—Auction Clauses in Gas Bills, 214
House of Lords Committees—
Local Government Board's Provisional Orders Confirmation Bill (West Houghton Order), 174
United General Gas Company (Limerick) Bill, 252
Waterford Gas Bill, 294, 332
House of Commons—
Local Government Board Inspectors, 12
Southwark and Vauxhall Water Supply, 136, 294
Standing Orders Committee, Special Report of the, 214
Thames River (Prevention of Floods) Bill, 136
House of Commons Committees—
Hanley Corporation Gas Bill, 175, 214
Waterford Gas Bill, 252

---

Gas and Water Works Facilities Act, 1870—Proceedings under the Act during the Session of 1877, 483
Progress of Bills in the House of Lords, 12, 55, 91, 136, 174, 214, 252, 294
Progress of Bills in the House of Commons, 12, 55, 91, 136, 174, 214, 252, 294

---

Notices given for Private Bills (Session 1878) relating to the Supply of Gas, Water, &c., 871
Notices of Applications to the Board of Trade (Session 1878) under the Gas and Water Works Facilities Act of 1870, 873
Notices of Applications to the Local Government Board (Session 1878) under the Public Health Act of 1875, 873

## Legal Intelligence.

Bankruptcy Court—Benjamin Higgs, *In re*, 15
Bath County Court—Bailey *v.* Anderson, 873
Bristol County Court—Bartlett *v.* Bristol Water Works Company, 374
Bristol Police Court — Conviction for Stealing Water, 874
Brompton County Court—Cutting off Gas without Notice, 602
City of London Police Court—Destruction of Street Lamps by Reckless Driving, 414
Chesterfield County Court — Disputed Water Meter Registration, 985
Colchester County Court—Wright *v.* Colchester Gas Company, 336
Devon Summer Assizes—Indictment of a Gas Company for Nuisance, 137
Dudley Police Court—Disputed Gas Account, 602
Exeter Petty Sessions—Conviction of the Exeter Gas Company for Nuisance, 137, 984
Greenwich Police Court—Insufficiency of Water Fittings, 914
Hanley Police Court—Harrison *v.* Staffordshire Potteries Water Works Company, 754
High Court of Justice—
Chancery Division—
Attorney-General *v.* The Gaslight and Coke Company, 790, 827
Birmingham Corporation *v.* Allen and another, 137
Birmingham Corporation *v.* Talbot Colliery Company, 258
Home and Foreign Gas Licensing Company, Limited, *In re* the, 137
Leamington Corporation *v.* Oldham and another, 137
Exchequer Division—Davey *v.* Cambridge University and Town Gas Company, 258
Queen's Bench Division—
Metropolitan Board of Works *v.* New River Company, 13
Searle *v.* Barnet Local Board, 914
House of Lords—Patterson *v.* The Gaslight and Coke Company, 948
Jarrow Borough Police Court — Conviction for Stealing Gas, 755
Lambeth Police Court—
Disputed Correctness of a Gas Meter, 482, 601, 642, 680
Extinguishing Street Lamps, 375
Liverpool Assizes — Gillibrand *v.* Hornsey Gas Company, 258
Londonderry Assizes—Ellis *v.* M'Combie, 297
Sheffield Police Court—Dismissal of a Stoker for Disobeying Orders, 873
Southwark Police Court—
Conviction of a Lamplighter for Neglect of Duty, 178
Obtaining Gas by Fraudulent Means, 258
Summons against a Water Company for Refusing to Supply Water, 874
Stockton Borough Police Court—Conviction of a Water Company for Refusing to Supply Water, 950
Supreme Court of Judicature—Court of Appeal—
Beale *v.* Gwynne, 914
Birmingham Corporation *v.* Allen and another, 13
Metropolitan Board of Works *v.* New River Company, 984
Roberts, *In re*, *ex parte* Hill, 92
Thompson and another *v.* Sunderland Gas Company, 13
Wandsworth Police Court—
Damaging Gas Mains, 139
Laying Mains in Public Roads, 519, 600
Warwick County Court—Oldham *v.* Leamington Corporation, 833
Wolverhampton Police Court—Alleged Theft from the Gas Works, 337
Worship Street Police Court—Metropolitan Board of Works *v.* Commercial Gas Company, 642, 677
York (West Riding) Summer Assizes—Regina *v.* Colne Valley Gas Company, 218

## Meetings of Companies.

Aldershot Gas and Water Company, 341
Alliance and Dublin Consumers Gas Company, 570
Ashford (Kent) Gas Company, 345
Auckland (New Zealand) Gas Company, 457
Bahia Gas Company, 876, 989
Barnet District Gas and Water Company, 375
Barnstaple Water Company, 420
Belper Gas Company, 425
Bombay Gas Company, 842
Bournemouth Gas and Water Company, 290
Brighton Gas Company, 376
Bristol United Gas Company, 447
Bristol Water Company, 487
Broadstairs Water Company, 213
Bromley Gas Consumers Company, 305
Cambridge University and Town Gas Company, 260
Cambridge University and Town Water Company, 262
Canterbury Gas and Water Company, 450
Castle Donnington Gas Company, 649
Chelsea Water Company, 22, 987
Chesterfield Water and Gas Company, 425
Cleveland Water Company, 259
Collingwood (Australia) Gas Company, 526
Colne Valley Water Company, 341
Commercial Gas Company, 563
Continental Union Gas Company, 988
Cork Consumers Gas Company, 303
Crawley Gas Company, 961
Croft and Hurworth-upon-Tees Gas Company, 257
Crystal Palace District Gas Company, 486
Derby Water Company, 417
Devonport Gas Company, 180
Diss Gas Company, 266
Dover Gas Company, 416, 989
Eastbourne Gas Company, 413
East London Water Company, 519
Eckington and Mosborough Gas Company, 919
Epworth Gas Company, 340
European Gas Company, 139
Falmouth Gas Company, 450
Faversham Gas Company, 262
Folkestone Water Company, 421
Fylde Water Company, 609
Gaslight and Coke Company, The (Chartered), 299
Georgetown (British Guiana) Gas Company, 841
Grand Junction Water Company, 956
Grantham Gas Company, 266
Grantham Water Company, 266
Halesworth Gas Company, 136

Harrow District Gas Company, 519
HartlepoolGas and Water Company, 415
Hastings and St. Leonards Gas Company, 450
Hinkley Gas Company, 67
Hokitika (New Zealand) Gas Company, 262
Huntingdon and Godmanchester Gas Company, 258
Imperial Continental Gas Association, 875
Keymer and Ditchling Gas Company, 345
Kidsgrove Gas Company, 348
King's Lynn Gas Company, 425
Lambeth Water Company, 878
Lancaster Gas Company, 380
Leicester Gas Company, 417
Leicester Water Company, 377
Lewes Gas Company, 340, 645
Lewes Water Company, 487
Littleborough Gas Company, 556
Liverpool United Gas Company, 339
London Gas Company, 568
Longton Gas Company, 418
Louth Gas Company, 649
Malta and Mediterranean Gas Company, 21, 51
Malvern Link Gas Company, 227
Melbourne (Australia) Gas Company, 520
Neath Water Company, 386
Newcastle-on-Tyne and Gateshead Gas Company, 339
Newcastle-under-Lyme Gas Company, 227
Newport (Mon.) Gas Company, 386
Newport (Mon.) Water Company, 417
Newry Gas Consumers Company, 342
Normanton Gas Company, 374
Norwich Water Company, 263
Odessa Water Company, 609, 644
Oriental Gas Company, 877
Peterborough Gas Company, 340
Phœnix Gas Company, 566
Pontefract Gas Company, 307
Port Elizabeth (Cape of Good Hope) Gas Company, 527
Portishead District Water Company, 884
Portsmouth Water Company, 425
Potsdam Water Company, 220
Preston Gas Company, 131
Reading Gas Company, 415
Richmond (Surrey) Gas Company, 417
Rochester and Chatham Gas Company, 219
Rochester and Chatham Water Company, 377
Rockhampton (Queensland) Gas Company, 520
San Paulo Gas Company, 649
Sevenoaks Water Company, 145
Sheffield United Gas Company, 558
Shrewsbury Gas Company, 520
Shrewsbury Water Company, 348, 411
Singapore Gas Company, 718
South Metropolitan Gas Company, 559
South Shields Gas Company, 376
South Staffordshire Water Company, 418
Southwark and Vauxhall Water Company, 952
Stockton and Middlesbrough Water Company, 266
Sunderland Gas Company, 416
Surrey Consumers Gas Company, 565
Taunton Water Company, 386, 725
Trowbridge Water Company, 884
Truro Water Company, 372
Wakefield Gas Company, 340
Waterford Gas Company, 448
Weardale and Shildon Water Company, 212, 257
Wellingborough Gas Company, 425
Weston-super-Mare Water Company, 425
West Surrey Water Company, 418
Wigton Water Company, 307
Wolverhampton Gas Company, 376
Wrexham Gas Company, 386
Wrexham Water Company, 418
York New Water Company, 262
York United Gas Company, 260

## Miscellaneous News.

Abyssinian Tube Wells. By Mr. A. Le Grand, 764
Accident at the Devonport Gas Works, 181
Accident at the Eastbourne Gas Works, 609, 649
Accident at the Stockport Gas Works, 992
Accident at the Whalley Bridge Gas Works, 640
Accident, Fatal, at the Salford Gas Works, 419, 522
Accident to a Gas Main at Grantham, 883
Accident to Gas Mains at Dukinfield, 920
Accident to the Middlesbrough Gasholder Tank, 343
Alfreton Water Supply, 67, 764
Altrincham Gas Supply, 805
Amalgamation of the Melbourne (Australia) Gas Companies, 759
Analysis and Valuation of Spent Oxides of Iron from Gas Works, On the. By Mr. G. E. Davis, 802
Arctic Coal brought Home by the late Expedition, On the. By Mr. T. Wills, F.C.S., 648
Average Meter System, The, in the Metropolis, 681, 957
Banff, Rejection of the Burghs (Scotland) Gas Supply Act at, 424
Barnet, Local Government Board Inquiry at, 844
Barnsley, Proposed Water Works Extension at, 558, 605
Bath, Damage to Gas Mains by Landslip at, 173
Batley Corporation Gas Works—Annual Report and Accounts, 304
Berthelot, Mons., on the Temperature of Combustion, 264
Bilston New Gas Works, 688, 725
Birkenhead Gas and Water Supply, 67, 411, 764
Birmingham Corporation Gas Supply, 557, 802
Birmingham Gas, Mr. T. Jackson's Reports on the Quality of the, 67, 227, 425, 571, 725, 914
Birmingham Water Supply, Dr. Hill's Lecture on the, 647
Birmingham Water Supply, Dr. Hill's Reports on the, 93, 297, 448, 801, 961
Bolton Corporation Gas Works—Annual Reports, 145
Bolton Corporation Gas Works—Balance Sheet, 456, 843
Bolton Corporation Gas Works, Extensions at the, 879
Bolton Public Lighting, 961.
Boring for Water at Stafford, 347, 425
Bowdon Gas Supply, 805
Bradford Corporation New Gas Works, 670
Bradford, The Price of Gas at, 605
Bramwell and Easton, Messrs., on the London Water Supply, 344
Bray, Mr. G., on Waste of Gaslight, 383, 419
Brémond, Mons. L., on Naphthaline in the Manufacture of Illuminating Gas, 491
Bridgewater Water Supply, 649
Bristol, Introduction of Gas into, 529
Bristol Public Lighting, 460, 529, 712
Bristol Water Works, Proposed Purchase of the, 609, 649
British Association for the Advancement of Science (Meeting at Plymouth)—
London Water Supply, Paper by Messrs. Bramwell and Easton on the, 344
Movement of Water in the Chalk Formation, Paper by Mr. Baldwin Latham on the, 960
New Unit of Light for Photometry, Paper by Mr. A. G. Vernon Harcourt on a, 337
Plymouth Water Supply, Paper by Mr. G. D. Bellamy on the, 423
Porter-Clark Process for Softening and Purifying Water, Paper by Mr. F. J. Bramwell on the, 489
Underground Waters, Report of the Committee on, 386
British Association of Gas Managers (Annual Meeting at Leeds) (*Continued from Volume* xxix.)—
Lecture on The Strains upon Girders, Trusses, and Braced Structures, and the Mode of Ascertaining and Calculating them. By Mr. Thomas Cargill, C.E., B.A., &c., 55
*Papers Read*—
Lighting Railway Carriages with Coal Gas at Low Pressures. By Mr. W. Sugg, 15
Automatic Gas Lighting and Extinguishing. By Mr. A. F. Wilson, 18
Some Experiments upon Power and Fuel Expended on Exhausting Gas. By Mr. C. Woodall, 59
Economy in Carbonization by the Use of West's Stoker. By Mr. J. Eldridge, 93
Periodical District Pressure Taking. By Mr. W. J. Warner, 96
Is the Adoption of the Form of Accounts as Scheduled in the Gas Works Clauses Act, 1871, by all Gas Companies or Corporations Desirable? By Mr. A. Lass, 97
Some of the Causes Tending to Restrict the Use of Gas and Coke, and How their Consumption may be Increased. By Mr. W. H. Bennett, 100
British Gas Company, Potteries Station—Annual Account, 645
Bunsen Lamp, The Theory of the. By Dr. Thorpe, 61
Burghs (Scotland) Gas Supply Act, Adoption of the, at Elgin, 959
Burghs (Scotland) Gas Supply Act, Adoption of the, at Wishaw, 261,
Burghs (Scotland) Gas Supply Act, Rejection of the, at Banff, 424
Canterbury, Local Government Board Inquiry at, 522
Cardiff Gas Supply, 958
Carlisle Corporation Gas Supply, 341
Castleford Gas Supply, 805
Chapeltown and District Gas Supply, 992
Cheltenham Water Works, Proposed Purchase of the, by the Town Council, 173
Chesterfield Gas Works, Extension of the, 145
Chesterfield Water Works and Gas Company's Annual Excursion, 483
Civil and Mechanical Engineers Society—Visit to the South Metropolitan Gas Works, 605
Clacton-on-Sea Water Supply, 637
Clitheroe Gas Works, Transfer of the, to the Corporation, 61, 266
Coal Gas and its Substitutes, 918
Coal Gas of the Metropolis, The, By Mr. T. S. Humpidge, 380
Coal Gas Poisoning, 805
Coal Production of Great Britain, 104
Contemporary Opinions on the Water Scheme of the Metropolitan Board, 838, 874
Cooking by Gas, Mr. Gladstone on, 764
Croydon, Local Government Board Inquiry at, 962
Darlington Corporation Gas Supply, 67, 605
Dartmouth, Gas Affairs at, 387
Davis, Mr. G. E., on the Analysis and Valuation of Spent Oxides of Iron from Gas Works, 802
Death of Mr. T. Cope, 943
Death of Mr. J. Shaw, 212
Death of Mr. S. H. Warren, 67
Destruction of Leather by Gas, 649, 884
Determination of the Organic Matter in Potable Water, On the. By Professor Dittmar and Mr. H. Robinson, 457
Devizes Water Supply—Local Government Board Inquiry, 419
Devonport Gas Works, Accident at the, 181
Dewsbury, Batley, and Heckmondwike Water Works Arbitration, 337, 805
Dirty Water Cisterns, 919
Dittmar, Professor, and Mr. H. Robinson on the Determination of the Organic Matter in Potable Water, 457
Doncaster Water Supply, 919
Droitwich Gas Works, Proposed Sale of the, 425
Dronfield Gas Company, 919
Dublin Corporation, The, and the Gas Company, 261, 419, 688
Du Bochet, The late Mons. Vincent, 758
Dukinfield Gas Company, 387
Dumbarton Gas Works, Extensions at the, 103
Edinburgh and District Water Trust Accounts, 67
Electric Light, The, 346, 609, 721, 880, 984
Elgin, Adoption of the Burghs (Scotland) Gas Supply Act at, 959
Embezzlement at the Neath Corporation Gas Works, 609
Embezzlement from the Cambridge Gas Company, 104
Evening Star Masonic Lodge, 372
Evesham Gas Works, Purchase of the, 495
Exeter Gas Works Purchase, Abandonment of the, 23
Exeter Water Supply, 185, 649, 786
Exeter Water Supply—Agreed Purchase of the Water Works by the Town Council, 990
Explosions of Gas, 26, 307, 446, 459, 495, 567, 758, 764, 787, 866, 957, 962
Failure of Messrs. W. Blews and Sons, 26
Farnworth and Kearsley Gas Supply, 104, 827
Fire at the Neepsend (Sheffield) Gas Works, 609
Fire at the St. John's (New Brunswick) Gas Works, 670
Fire Brigade Committee, Extract from the Report of the, on the Metropolitan Water Supply and the Extinction of Fires in the Metropolis, 179, 218
Foulis's Hydraulic Stokers at Beckton, 50
Fraud, Alleged, by Gas Officials at Forfar, 266
Fryer, Mr. A., On the Utilization of Sewage, 225
Gaslight, The Influence of, on the Eyes, 764
Gaslit Railway Carriages, 844
Gas Measurement. By Mr. T. O'C. Sloane, A.M., E.M., &c., 526
Gas Meter Company, The, 712
Gas Tar as a Seed Wheat Dressing, 764
Gas Testing in the Metropolis, 841
Gladstone, Mr., on Cooking by Gas, 764
Glasgow Water Fittings, The Testing and Stamping of, 748
Glasgow Water Supply, Dr. Mills's Reports on the, 104, 307, 332, 448, 518, 713, 961
Glasgow Water Supply, Mr. Gale's Report on the, 764
Great Grimsby Gas Works, Extensions at the, 962
Halifax Corporation Gas Supply—Extension of the Works, 485, 920
Halifax, Gas Affairs at, 687
Harcourt, Mr. A. G. Vernon, on a New Unit of Light for Photometry, 337
Hartlepool Gas and Water Works, Proposed Purchase of the, 572
Hastings Gas Supply, 562, 958
Hawes, Mr. W., on the Supply of Water to the Metropolis, 840
Health and Sewage of Towns, 386
Heanor Gas Supply, 764
Hebden Bridge Gas Company, 263
Hengoed Gas Works, 919
Hillhead, Lighting the Common Stairs at, 570
Hove Public Lighting—Report by the Borough Surveyor, 487
Howden Public Lighting, 386
Hull Corporation Water Works, 421, 649, 920
Hull Gas Supply, Messrs. Baines's Reports on the, 258, 456, 609, 786, 992
Hull Gas Works, Abandonment of the Proposed Purchase of the, by the Corporation, 459, 571
Humpidge, Mr. T. S., on the Coal Gas of the Metropolis, 380
Ilkeston Gas Works, Purchase of the, 425
Influence of Gaslight on the Eyes, 764
Institution of Civil Engineers, 755, 786, 869, 919, 991
Introduction of Gas into Bristol, 529
Invercargill (New Zealand) Corporation Gas Works, 518
Inverness, Gas Affairs at, 878
Kingston (Jamaica), Lighting of, 12
Latham, Mr. Baldwin, on the Movement of Water in the Chalk Formation, 960
Leek Gas Works, Extensions at the, 990
Le Grand, Mr. A., on Abyssinian Tube Wells, 764
Leicester Gas Company, The, and the Corporation —Proposed Gas Works Extension, 454
Leicester Water Works, Proposed Purchase of the, 518, 610
Liberal Employer, A, 212
Lichfield Gas Company, Refusal of the, to Sell their Undertaking, 307
Lighting by Electricity, 346, 609, 721, 880, 984
Littleborough Gas Works, Failure of the Negotiations for the Purchase of the, 482
Liverpool Corporation Water Accounts, 102
Liverpool Corporation Water Supply, 495, 884
Liverpool Gas Works, Proposed Purchase of the, by the Town Council, 224

Livesey's, Mr. G., Report on the Accident to the Middlesbrough Gasholder Tank, 343
Local Government Board Inquiries, 342, 419, 522, 523, 844, 881, 962
Local Government Board Provisional Orders, 415
London Sanitary Association, 267
London Water Supply, Messrs Bramwell and Easton on the, 344
London Water Supply, The *Nineteenth Century* on the, 422
Maidstone, The Sulphur Question at, 452
Manchester Corporation Gas Supply, Mr. G. B. Jackson's Report on the, 635
Manchester Corporation Gas Works, Annual Report and Accounts of the, 713
Manchester Corporation New Gas Works, 521, 606
Manchester Corporation Water Supply, 64, 386
Manchester District Association of Gas Engineers, 649
Mansfield Gas Works, Purchase of the, 483
Masonic Lodge, A New, 372
Melbourne (Australia) Gas Companies, Amalgamation of the, 759
Metropolis Floods Prevention, Deputation to the Home Secretary on, 26
Metropolis Floods Prevention, The Metropolitan Board of Works and, 786
Metropolis Gas Supply—
Accounts of the Metropolitan Gas Companies for the Year 1876, 291
Average Meter System, The, in Lambeth, 681
Average Meter System, The, in Paddington, 957
Average Meter System, The, in St. Pancras, 681
Barclay's, Dr., Report on the Gas Supplied to Chelsea, 604
Commercial Gas Company, 844
Court of Common Council, 447
Gas Testing, 841
Lambeth Vestry, 915
Metropolitan Board of Works, 92, 603, 643
Stevenson's, Dr., Reports on the Gas Supplied to St. Pancras, 92, 218, 915
Whitmore's, Dr., Reports on the Gas Supplied to Marylebone, 185, 604, 755, 986
Williamson's, Professor, Reports on the Chartered and South Metropolitan Gas, 92, 557
Metropolis Water Supply—
Accounts of the Metropolitan Water Companies for the Year 1876-77, 599
Bolton's, Major, Annual Report, 755
Bolton's, Major, Monthly Reports, 139, 494, 604, 801
Camberwell Vestry, 917
City Commission of Sewers, 917
Chelsea Vestry, 986
Contemporary Opinions on the Water Scheme of the Metropolitan Board, 838, 874
Court of Common Council, 801, 951
Extinction of Fire, Extract from the Report of the Select Committee on the Metropolitan Fire Brigade and the, 179, 218
Extract from the Inaugural Address of the President of the Society of Arts, 840
Extract from the *Nineteenth Century*, 422
Frankland's, Dr., Reports on Chemical Examinations of Metropolitan Waters, 93, 299, 447, 604, 801, 951
Lambeth Vestry, 986
Medical Officers of Health, Monthly Returns of the, on the Composition and Quality of the Metropolitan Waters, 93, 218, 375, 519, 758, 917
Metropolitan Board of Works, 258, 644, 713, 797, 835, 874, 915, 951
Mile End Old Town Vestry, 874
New River Company, The, and Constant Supply, 519
Paper by Messrs. Bramwell and Easton read before the British Association at Plymouth, 344
Registrar-General's, The, Monthly Returns of the Average Quantity of Water Supplied by the London Water Companies, 92, 299, 447, 604, 801, 952
Report by Messrs. Bazalgette, Bramwell, and Easton on the Best Means of Providing an Efficient Supply of Water for Extinguishing Fires and for other Purposes, 258
Southwark and Vauxhall Water Company's Supply, 604, 644
Stoneham's, Mr. Allan, Annual Report on the Accounts of the Metropolitan Water Companies, 757
Strand District Board, 986
Uxbridge District Local Board of Health, 986
Wandsworth District Board, 986
Water Rates in Southwark, 951
Whitmore's, Dr., Reports on the Water Supplied to Marylebone, 185, 604, 758, 986
Woolwich Local Board, 986
Metropolitan Vestry and District Board Expenditure, 145
Middlesbrough Gasholder Tank, Accident to the, 343
Middlesbrough Gasholder Tank, Tenders for Reconstructing the, 609
Monte Video Gas Company, 961
Movement of Water in the Chalk Formation, The. By Mr. Balwin Latham, M.I.C.E., F.G.S., &c., 960
Midland Association of Gas Managers, 605
Mowton, Mr. C. C., on Working Retorts by Mechanical Means, 24
Naphthaline in the Manufacture of Illuminating Gas. By Mons. L. Brémond, 491
Newbigging's, Mr. T., Report on the Proposed Enlargements at the Rochdale Gas Works, 451
Newcastle-on-Tyne Gas, Mr. J. Pattinson's Reports on the Quality of the, 104, 228, 449, 528, 712, 884
Newry Gas Works, Proposed Purchase of the, 755
New York, A Threatened Water Famine in, 634
New York, The Water Supply of, 686
*Nineteenth Century*, The, on the London Water Supply, 422
North British Association of Gas Managers (Annual Meeting at Stirling)—
Election of New Members, 141
Inaugural Address. By Mr. Adam Macpherson, 141
Auditor's Report, Election of Office Bearers, Next Meeting, 143
Expenses of Attending Meetings, 144
*Papers Read*—
A Mechanical Difficulty with Coal Tar, and Method of Surmounting it. By Mr. J. Reid, 182
The Condensation and Treatment of Gases by the Aitken-Young Process. By Mr. R. Mitchell, 183
The Causes Affecting the Quantity of Carbon Deposited in Retorts. By Mr. W. Young, 221
*Papers Presented but not Read*—
Internal Gas Fittings. By Mr. J. Hall, 381
Dalziel's Non-Tilting Meter, 421
Gas Works without Holders, 421
North of England Gas Managers Association, 716
Nottingham Corporation Gas Supply — Annual Report and Accounts, 378
Nottingham Corporation Gas Works, Proposed Extension of the, 521
Opposition Gas Works, 305
Ossett Gas Company, The, and the Local Board, 803
Oxford Corporation New Water Works, 523
Partick, Hillhead, and Maryhill Gas Works, New Gasholder at the, 556
Personal Honours, 764
Peruvian Gas Manager's Troubles, A, 187
Plymouth Water Supply, 423
Porter-Clark Process for Softening and Purifying Water, 489
Portland Cement Concrete, 787
Portsea Island Gas Works, West's Stoker at the, 644, 671
Portsmouth Gas Company's New Offices, 562
Portsmouth Water Works, Proposed Purchase of the, 386
Presentation to Mr. W. F. Cotton, 387
Presentation to Mr. C. A. Craven, 411
Presentation to Mr. T. Duxbury, 650
Presentation to Mr. J. H. Lyon, 252
Presentation to Mr. T. Moore, 386
Presentation to Mr. C. Nicholson, 712
Public Lighting, Cost of, in the Provinces, 748
Recovering Gas Rents, 712
Reductions in the Price of Gas, 26, 67, 104, 186, 227, 259, 290, 347, 411, 456, 482, 518, 556, 602, 680, 759, 786, 884, 961, 992
Refusal to Pay a Lighting Rate, 482
Retford Gas Works, Transfer of the, to the Corporation, 961
Richmond (Surrey) Water Supply, 414
Rivers Pollution Prevention Act — Circular of the Local Government Board, 378
Rivers Pollution Prevention Act — Inquiry at Barnet, 844
Rivers Pollution Prevention Act — Inquiry at Canterbury, 522
Rivers Pollution Prevention Act — Inquiry at Sandown, 523
Robinson, Mr. H., and Professor Dittmar, on the Determination of the Organic Matter in Potable Water, 457
Rochdale Corporation Gas Works—Mr. T. Newbigging's Report on the Proposed Enlargements, 451
Romford Public Lighting, 266
Rural Sanitation. By Mr. G. W. Usill, 572
Ruthin Water Supply, 844
Sales of Gas and Water Shares, 67, 105, 131, 187, 227, 292, 483, 556, 609, 635, 673, 786, 961, 992
Salford Corporation Gas Works—Annual Report of the General Gas Committee, 759
Salford Corporation Gas Works—Fatal Accident at the Regent Road Station, 419, 522
Sandown, Local Government Board Inquiry at, 523
Sanitary Science, 528
Scarborough Water Supply, 518, 599
Seaside Watering Places, The Water Supply of, 571
Shrewsbury Water Works, Sale of the, 91, 348
Silliman, Professor, on the Storeage of Water, 263
Sloane, Mr. T. O'C., on Gas Measurement, 526
Smoke Laden Air, 650
Social Science Congress—Health Section (Meeting in Aberdeen)—
Address by the President, 525
*Papers Read*—
Animal Life in Fresh Water Reservoirs. By Mr. W. J. Macadam, 526
Contamination of Water in Domestic Water Cisterns. By Dr. S. Macadam, 524
Ventilation of Sewers and Drains. By Dr. S. Macadam, 525
Waste of Water in Towns. By Mr. W. Boulton, 524
Société Technique de l'Industrie du Gaz en France—Prize Competition for 1878, 558
Society of Arts Honours, 347
Society of Engineers, 572, 764, 920, 962, 992
Southampton Water Supply, 67
Southern District Association of Gas Engineers and Managers, 755
South Essex, Gas Lighting in, 919
Spent Oxides of Iron from Gas Works, On the Analysis and Valuation of. By Mr. G. E. Davis, 802
Spontaneous Combustion of Coal Cargoes, 649
Stafford, Boring for Water at, 347, 425
St. Columb Local Board, Threatened Dissolution of the, 377
St. Helen's Gas Works, Purchase of the, 642, 673
St. Neots, The Gas, Sewerage, and Water Works Question at, 102
Stockport Gas Works, Accident at the, 992
Stockton and Middlesbrough Water Works, The Transfer of the, to the Corporations, 227
Stoke Gas Works, Purchase of the, 180, 347, 495, 687, 786
Stone's Water Waste Preventer, 880
Storeage of Water, The. By Professor Silliman, 263
Stratford-on-Avon Gas Works, Proposed Purchase of the, 917
Suffocation by Gas, and Charge of Culpable Homicide against a Gas Inspector, 385, 567, 681
Suffocation by Gas at Derby, 919
Summons for Non-Payment of Lighting Rate—Alleged Improper Levy, 374
Sutcliff, Mr. R., on Tube Wells, 920
Sutton Coldfield Gas Supply, 956
Sutton-in-Ashfield Gas Works, Transfer of the, to the Local Board, 482
Symes's Apparatus for Manufacturing, Purifying, and Economizing Gas, 760
Taunton Water Works, Purchase of the, 67, 599, 725
Temperature of Combustion, The. By Mons. Berthelot, 264
Testing and Stamping of Water Fittings in Glasgow, 748
Testing of Gas Meters, The Warden of the Standards on the, 415
Thorpe, Dr., on the Theory of the Bunsen Lamp, 61
Tube Wells. By Mr. R. Sutcliffe, 920
Tunbridge Wells New Gas Works, 386, 605, 640
Underground Water, Report by the Committee of the British Association on, 386
Unit of Light for Photometry, On a New. By Mr. A. G. Vernon Harcourt, F.R.S., &c., 337
Upper Sedgley Gas Supply, 961
Usill, Mr. G. W., on Rural Sanitation, 572
Utilization of Sewage. By Mr. A. Fryer, 225
Wakefield, Increased Water Charges at, 956
Walsall Corporation New Gas Works, 725
Walsall Gas Works, Transfer of the, to the Corporation, 67
Warden of the Standards, The, on the Testing of Gas Meters, 415
Warren Farm Well, The, at Brighton, 598
Warrington Gas Works Purchase, 332, 879
Waste of Gaslight. By Mr. G. Bray, 383, 419
Waverley Association of Gas Managers, 424
West of Scotland Association of Gas Managers (Meeting at Helensburgh)—
Summary Report, 528
Election of New Members, 645
Inaugural Address. By Mr. J. M'Gilchrist, 645
*Papers Read*—
A Twelvemonth's Experience of the Steam Jet Exhauster. By Mr. D. Jeffrey, 646
The Illuminating Power Meter. By Mr. W. Sugg, 682
The Construction of Gas Works. By Mr. S. Stewart, 718
The Aitken-Young Process. By Mr. H. Aitken, 762
Weston-super-Mare Water Works, Proposed Purchase of the, 372, 805
West's Stoker at the Portsea Island Gas Works, 644, 671
Whalley Bridge Gas Works, Accident at the, 640
Whitehaven Public Lighting, 348
Wigan Gas Works Extension—Local Government Board Inquiry, 342
Wills, Mr. T., on the Arctic Coal brought Home by the late Expedition, 648
Wilson's Improvements in Hydraulic Mains and Dip Pipes, 882
Winchester, Street Lighting at, 342, 570
Windsor Drainage, 266
Wishaw, Adoption of the Burghs (Scotland) Gas Supply Act at, 261
Wolverhampton Water Supply, 761
Working Retorts by Mechanical Means. By Mr. C. C. Mowton, 24
Worsborough and District Water Supply, 495
York City Council and the Gas Company, 958

---

Share List of Metropolitan Gas and Water Companies, 27, 228, 387, 498, 725, 884

Trade Reports, 25, 66, 103, 144, 185, 226, 265, 306, 346, 385, 423, 458, 494, 527, 572, 608, 648, 687, 724, 763, 804, 883, 918, 960, 991

## Register of Patents.

Abel, C. D.—Gas Motor Engines, 529
Almgill, T.—Water Meters, 497
Beckett, F. R.—Valves, 688

Beldam, A.—Packing, 531
Bischof, G.—Purification of Water and Sewage, &c., 529
Blackie and Robertson—Service Cisterns and Valves, 497
Blamires, T. H.—Automatically Opening and Closing Taps, &c., 805
Braddock, J. and J.—Governors for Gas or Air, 765
Brook and Wilson—Apparatus for Making Gas, 498
Butler, G.—Valves or Cocks, 530
Clark, A. M.—
  Apparatus for Charging Gas Retorts, 497
  Gas Retorts, 496
Collet and Denans—Cocks or Valves, 496
Colls, F. W.—Manufacture of Gas, 806
Dann, J. T.—Lighting, Extinguishing, and Regulating Gas Flames, 688
Davies, P. J.—Liquid Meters, 530
Deacon, G. F.—Valves, 531
Denton, J. B.—Filters, 498
Ewart, G.—Gas Heating Apparatus, 806
Faulkner, J.—Electrical Apparatus for Lighting Gas, 530
Fison, F. W.—Exhausting Gas Retorts, 764
Haddon, H. J.—Lighting Conveyances, 497
Hart, J. L.—Gas Meters, 496
Hughes, E. T.—Gaslight Extinguisher, 497
Johnson, J. H.—
  Gas Meters, 531
  Manufacture of Gas, 650
Kramme, C. D. E.—Suspending Gaseliers, 805
Laidlaw, D.—Lighting Railway Carriages, 496
Lake, W. R.—Implements for Cutting Pipes, 530
Lascelles, C. T. E.—Gas Engines, &c., 529
Lovell, T.—Purifying Sewage, 764
Maclellan, G.—Packing for Pumps, &c., 497
Macneill, Sir J.—Apparatus for Measuring and Registering Water Supply, 496
Massey and Knott—Taps, 530
Melling, T.—Regulating Pressure in Pipes, &c., 530
Mohr, F. W. B.—Treating Spent Oxide of Iron, 530
Morgan-Brown, W.—
  Filters, 529
  Self-closing Valves, 529
Morris, W.—Drilling or Tapping Water and Gas Mains, 496
Muirhead, J.—Lighting and Extinguishing Gas Lamps, 498
Muller, J. A.—Manufacture of Gas and Fuel from Rice Husks, 497
North, J.—Pumps, 765
Ortmans, V. C. J.—Rotatory Pumps, 530
Plessner, J. M.—Liquid Meters, 806
Porter, J. H.—Filtering Water, 496
Saxby, F. E.—Valves, 650
Schnell, J. F.—Lamps and Burners, 688
Smith, F.—Union for Pipes, 805
Stannah, J.—Donkey Engines and Pumps, 497
Taverdon, C. L.—Pumps, &c., 529
Tylor, A.—
  Supply of Water to Closets, &c., 496
  Water Waste Preventers, 806
Watkinson and Stafford—Joints for Pipes, 497
Webb, W.—Separating Sewage, 529

---

Automatically Opening and Closing Taps, &c.—Blamires, T. H., 805
Charging Gas Retorts, Apparatus for — Clark, A. M., 497
Cocks or Valves—Collet and Denans, 496
Cutting Pipes, Implements for—Lake, W. R., 530
Donkey Engines and Pumps—Stannah, J., 497
Drilling or Tapping Water and Gas Mains — Morris, W., 496
Electrical Apparatus for Lighting Gas—Faulkner, J., 530
Exhausting Gas Retorts—Fison, F. W., 764
Filtering Water—Porter, J. H., 496
Filters—
  Denton, J. B., 498
  Morgan-Brown, W., 529
Gaseliers—Kramme, C. D. E., 805
Gas Engines, &c.—Lascelles, C. T. E., 529
Gas Heating Apparatus—Ewart, G., 806
Gaslight Extinguisher—Hughes, E. T., 497
Gas Meters—
  Hart, J. L., 496
  Johnson, J. H., 531
Gas Motor Engines—Abel, C. D., 529
Gas Retorts—Clark, A. M., 496
Governors for Gas or Air—Braddock, J. and J., 765
Joints for Pipes—Watkinson and Stafford, 497
Lamps and Burners—Schnell, J. F., 688
Lighting and Extinguishing Gas Lamps—Muirhead, J., 498
Lighting Conveyances—Haddon, H. J., 497
Lighting, Extinguishing, and Regulating Gas Flames—Dann, J. T., 688
Lighting Railway Carriages—Laidlaw, D., 496
Liquid Meters—
  Davies, P. J., 530
  Plessner, J. M., 806
Manufacture of Gas—
  Brook and Wilson, 498
  Colls, F. W., 806
  Johnson, J. H., 650
Manufacture of Gas and Fuel from Rice Husks—Muller, J. A., 497
Measuring and Registering Water Supply—Macneill, Sir J., 496
Packing—Beldam, A., 531
Packing for Pumps, &c.—Maclellan, G., 497
Pumps—
  North, J., 765
  Taverdon, C. L., 529
Purification of Water and Sewage, &c.—Bischof, G., 529
Purifying Sewage—Lovell, T., 764
Regulating Pressure in Pipes, &c.—Melling, T., 530
Rotatory Pumps—Ortmans, V. C. J., 530
Separating Sewage—Webb, W., 529
Service Cisterns and Valves—Blackie and Robertson, 497
Supply of Water to Closets, &c.—Tylor, A., 496
Taps—Massey and Knott, 530
Treating Spent Oxide of Iron—Mohr, F. W. B., 530
Union for Pipes—Smith, F., 805
Valves—
  Beckett, F. R., 688
  Deacon, G. F., 531
  Morgan-Brown, W., 529
  Saxby, F. E., 650
Valves or Cocks—Butler, G., 530
Water Meters—Almgill, T., 497
Water Waste Preventers—Tylor, A., 806

---

Patent Notices, 26, 105, 145, 187, 228, 267, 307, 348, 387, 425, 498, 531, 572, 610, 650, 688, 725, 765, 806, 845, 920, 962, 992.